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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/525,631   | 02/24/2005  | Jorg Rosch           | 2002P09821WOUS      | 8341             |
| 7590   | 12/09/2005  |                      | EXAMINER            |                  |
| Siemens Corporation<br>Intellectual Property Department<br>170 Wood Avenue south<br>Iselin, NJ 08830 |             |                      |                     | KANG, JULIANA K  |
|  |             | ART UNIT             | PAPER NUMBER        |                  |
|  |             |                      | 2874                |                  |

DATE MAILED: 12/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                 |                         |
|------------------------------|-----------------|-------------------------|
| <b>Office Action Summary</b> | Application No. | Applicant(s)            |
|                              | 10/525,631      | ROSCHE ET AL. <i>AM</i> |
|                              | Examiner        | Art Unit                |
|                              | Juliana K. Kang | 2874                    |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 2/24/05 (preliminary amendment).  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 9-18 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 9-18 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

|  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/24/05</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 9-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In line 8 of independent claim 1, there is no proper antecedent support for the terms "said optical components" and "said electrical components", thus rendering claim 1 indefinite. Claims 10-18 are rejected as being dependent on rejected claims and therefore contain the same deficiencies as the claims they are dependent upon. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 9-12 and 14-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Messica et al (U.S. Patent 6,909,824 B1).

Messica et al disclose an electrically controlled optical add-drop multiplexer comprising: an optical waveguide (110, 120); an multiplexer (550); a demultiplexer (510); an optical filter (523, see column 11 line 23); a micro-electrical-mechanical system (see column 5 lines 58-67); and an optical amplifier (see column 1 line 54-56), wherein the components are arranged on a multilayer printed circuit board (see column 3 line 62, column 7 lines 48-56 and column 10 lines 17-22). Messica et al do not specifically states a term "electrical conductor path." Since Messica et al disclose that the resonator is coupled to an electric filed, the structure of Messica et al inherently has electrical conductor path. Messica et al disclose that the multilayer printed circuit board is made of silicon, polymer, glass and etc. (see column 4 lines 21-42) and the waveguide that can be made of any material including glass.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Messica et al (U.S. Patent 6,909,824 B1) and further in view of Dawes et al (U.S. Patent 6,519,380 B2).

Regarding claims 13 and 17, as described above, Messica et al disclose the claimed invention except the optical conductor paths made of glass and polymers or contain a doping. Dawes et al teach the conductor paths (waveguides) made of polymer in combination with a doped silica (see column 2 lines 60-64) which reduces thermal shifting of wavelengths (see abstract). Messica et al also teach using any known materials in the art (see column 4 lines 30-42) thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use materials such as polymer and doped silica in Messica et al as taught by Dawes et al for optimum coupling efficiency.

8. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Messica et al (U.S. Patent 6,909,824 B1) and further in view of Ogura (U.S. Patent 5,517,489).

Regarding claim 18, Messica et al disclose an optical device (resonator) but are silent about an electro-optical device and an opto-electrical device. However, using such devices are well known in the art as shown in Ogura et al to convert electrical signals to optical signals and optical signals to electrical signals in an optical transmission system.

***Conclusion***

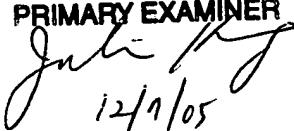
9. The prior art documents submitted by applicant have been considered and made of record (note the attached copy of form PTO-1449).

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Parker (U.S. Patent 6,694,068 B2) and Antaki et al (U.S. Patent 6,738,538 B2) teach an optical system including MEMS device on a circuit board.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juliana K. Kang whose telephone number is (571) 272-2348. The examiner can normally be reached on Mon. & Thur. 8:00-2:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rod Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JULIANA KANG  
PRIMARY EXAMINER  
  
12/1/05